

5 minutes	1,000 °F.
10 minutes	1,300 °F.
30 minutes	1,550 °F.
60 minutes	1,700 °F.

(h) *Main vertical zones* are those sections, the mean length of which does not, in general, exceed 131 feet on any one deck, into which the hull, superstructure, and deckhouses are required to be divided by fire-resisting bulkheads.

(i) Where the term *steel or other equivalent metal* is used in this part, it is intended to require a material which, by itself or due to insulation provided, has structural and integrity qualities equivalent to steel at the end of the applicable fire exposure.

(j) Working spaces will be considered as only those service and machinery spaces where personnel are normally employed as contrasted to those where personnel may occasionally visit or be employed for short periods of time.

(k) Passenger or crew corridors over 8 feet in width will be considered as public spaces for the purpose of this subpart.

(l) Spaces which might be considered as open decks due to the presence of permanent openings to the weather in one or more sides, or where any or all sides may be completely open to the weather, will be considered as interior or enclosed spaces for the purpose of this subpart if any spot on the overhead is more than 15 feet from the nearest opening to the weather. This requirement shall only apply to those portions of the space as are under a deck or canopy, but it shall not be considered as a restriction against permanent opening or a restriction against the materials used for a canopy. This paragraph shall not apply to open or enclosed promenades having a nominal width of 15 feet or less.

(m) Where balconies are installed opening into a space, the following general requirements shall be met:

(1) For the purpose of meeting main vertical zone bulkhead spacing, the length of the space to which the balcony is open will be considered as being increased by an amount equal to the gross area of the balcony divided by the average width of the space.

(2) Where balconies are formed by penetrating one or more decks, the

bulkheads in the upper portion of the space are, in effect, part of a stepped or recessed deck and should be treated as such for fire control purposes. In this regard, particular attention should be given to the protection of openings with proper doors of the type indicated in § 72.05-25(b)(9).

(3) Two means of escape shall be provided for each balcony, at least one of which shall be independent of the space to which the balcony is open.

§ 72.05-10 Type, location, and construction of fire control bulkheads and decks.

(a) The hull, structural bulkheads, decks, and deckhouses shall be constructed of steel or other equivalent metal construction of appropriate scantlings.

(b) The hull, superstructure, and deck houses shall be subdivided by suitable structural steel or other equivalent metal bulkheads into main vertical zones, the mean length of which shall not, in general, exceed 131 feet on any one deck. Where practicable, the main vertical zone bulkheads shall be kept in a single vertical plane. However, on vessels designed for special purposes, such as automobile or railroad car ferries, where the installation of such bulkheads would defeat the purpose for which the vessel is intended, equivalent means for controlling and limiting a fire may be substituted if specifically approved by the Commandant.

(c) All bulkheads and decks shall be classed as A-60, A-30, A-15, A-0, B-15, B-0, or C, depending upon the type of space on each side of the bulkhead or above and below the deck.

(1) Bulkheads or decks of the "A" Class shall be composed of steel or equivalent metal construction, suitably stiffened and made intact with the main structure of the vessel, such as shell, structural bulkheads, and decks. They shall be so constructed that, if subjected to the standard fire test, they would be capable of preventing the passage of smoke and flame for 1 hour. In addition, they shall be so insulated with approved structural insulation, bulkhead panels, or deck covering that the average temperatures on the unexposed side would not rise more

§ 72.05-10

than 250 °F. above the original temperature, nor would the temperature at any one point, including any joint, rise more than 325 °F. above the original temperature, within the time listed below:

Class A-60	60 minutes.
Class A-30	30 minutes.
Class A-15	15 minutes.
Class A-0	0 minutes (i.e., no insulation requirements).

(2) Bulkheads of the "B" Class shall be constructed with approved incombustible materials and made intact from deck to deck (or to ceiling as provided in paragraph (h) of this section) and to shell or other boundaries. They shall be so constructed that, if subjected to the standard fire test, they would be capable of preventing the passage of flame for $\frac{1}{2}$ hour. In addition, their insulation value shall be such that the average temperature of the unexposed side would not rise more than 250 °F. above the original temperature, nor would the temperature at any one point, including any joint, rise more than 405 °F. above the original temperature within the time listed below:

46 CFR Ch. I (10-1-98 Edition)

Class B-15	15 minutes.
Class B-0	0 minutes (i.e., no insulation requirements).

(3) Class C bulkheads or decks shall be constructed of approved incombustible materials, but need meet no requirements relative to the passage of flame nor the limiting of temperature rise.

(d) The minimum requirements for the bulkheads between the various spaces, where such bulkheads form the boundaries of main vertical zones, shall be as noted in table 72.05-10(d).

(e) The minimum requirements for the bulkheads between the various spaces, where such bulkheads do not form the boundaries of main vertical zones, shall be as noted in table 72.05-10(e).

(f) The minimum requirements for the decks between the various spaces, where such decks form the boundaries of stepped main vertical zones, shall be as noted in table 72.05-10(f).

(g) The minimum requirements for the decks between the various spaces, where such decks do not form the boundaries of stepped main vertical zones, shall be as noted in table 72.05-10(g).

TABLE 72.05–10(D)—BULKHEADS—MAIN VERTICAL ZONE

		THIS SPACE:									
ADJACENT TO	Stairway and elevator enclosures	State-rooms and all public spaces with in-combustible veneers and trim and fire-resistant furnishings									
		Control stations	Staircase	Life boat embarkation or lowering stations	Corridors	Wash-rooms, toilet spaces, and isolated store-rooms	Galley, main pantries, store-rooms, and isolated pantries with in-combustible fittings	Machinery spaces	Dry cargo spaces	Fuel and water tanks and voids	Open decks and en-closed promenades (not safety areas)
THIS SPACE:											
1	A-60	A-15	A-15	A-0	A-30	A-60	A-0	A-60	A-60	A-0	A-0
2	A-0	A-0	A-0	A-0	A-0	A-60	A-0	A-60	A-60	A-0	A-0
3
4	C	.....	.....	.....	.....	.....	.....	C
5	A-15	A-15	A-0	A-30	A-30	A-0
6
7
8
9
10
11
12
13	C

TABLE 72.05–10(E)—BULKHEADS—NOT MAIN VERTICAL ZONES

		THIS SPACE:									
		Stairway and elevator enclosures	Corridors	Life boat embarkation or lowering stations	State-rooms and all public spaces with in-combustible veneers and trim and fire-resistant furnishings	Wash-rooms, toilet spaces, over 500 square feet or less with combustible veneers and trim and fire-resistant furnishings and isolated store-rooms	Galley, main pantries, store-rooms, and isolated pantries with in-combustible fittings	Machinery spaces	Dry cargo spaces	Fuel and water tanks and voids	Open decks and en-promenades (not safety areas)
ADJACENT TO	Control stations	A-0 C	A-0 A-0 C	A-0 A-0 C	A-15 A-0 B-0 A-0	A-60 A-60 B-0 A-0	A-0 A-0 A-0 A-0	A-60 A-60 A-0 A-0	A-60 A-60 A-0 A-0	A-60 A-60 A-0 A-0	A-0 A-0 A-0 C
THIS SPACE:	Control stations	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stairway and elevator enclosures	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Corridors	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lifeboat embarkation or lowering stations	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Staterooms and all public spaces with in-combustible veneers and trim and fire-resistant furnishings	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Staterooms, and public spaces, of 500 square feet or less with combustible furnishings, and isolated store-rooms	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Public spaces over 500 square feet with combustible furnishings	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Washrooms, toilet spaces, and isolated pantries with incombustible fittings	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Galleys, main pantries, store-rooms, and workshops	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Machinery spaces	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dry cargo spaces	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fuel and water tanks and voids	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Open decks and enclosed promenades (not safety areas)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	C

¹ Class C bulkheads may be used between two similar staterooms, such as between two similar staterooms. However, a Class A-0 bulkhead shall be used between dissimilar spaces, such as a stateroom and a dissimilar workshop.

TABLE 72.05–10(F)—DECKS—MAIN VERTICAL ZONES

		THIS SPACE:								
ADJACENT TO	Stairway and elevator enclosures	State-rooms and all public spaces with in-combustible veneers and trim and fire-resistant furnishings								
		Control stations	Staircase	Life boat embarkation or lowering stations	Corridors	Wash-rooms, toilet spaces, and isolated store-rooms, and isolated storerooms	Galley, main pantries, store-rooms, and work-shops	Machin-ery spaces	Dry cargo spaces	Fuel and water tanks and voids	Open decks and en-closed promenades (not safety areas)
THIS SPACE:										
1	A-60	A-60	A-30	A-0	A-15	A-60	A-0	A-0	A-0	A-0
2	A-15	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0
3	A-30	A-0	A-0	C	A-0	A-0	A-15	A-0	A-0	A-0
4	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	C
5	A-30	A-30	A-15	A-0	A-15	A-15	A-30	A-0	A-0	A-0
6	A-60	A-60	A-30	A-15	A-15	A-60	A-0	A-0	A-0	A-0
7	A-60	A-60	A-60	A-30	A-30	A-60	A-0	A-0	A-0	A-0
8	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0
9	A-60	A-60	A-60	A-30	A-30	A-60	A-0	A-0	A-0	A-0
10	A-60	A-60	A-60	A-30	A-30	A-60	A-0	A-0	A-0	A-0
11	A-60	A-60	A-60	A-30	A-30	A-60	A-0	A-0	A-0	A-0
12	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0
13	A-0	A-0	C	A-0	A-0	A-0	A-0	A-0	A-0	C

TABLE 72.05–10(G)—DECKS—NOT MAIN VERTICAL ZONES

		THIS SPACE:										
ADJACENT TO	Stairway and elevator enclosures	THIS SPACE:										
		Control stations	Staircase rooms and all public spaces with in-combustible veneers and trim and fire-resistant furnishings	Life boat embarkation or lowering stations	Corridors	State-rooms and all public spaces over 500 square feet or less with in-combustible veneers and trim and fire-resistant furnishings and isolated store-rooms	Wash-rooms, toilet spaces, and isolated pantries with incombustible fittings	Galley, main pantries, store-rooms, and isolated pantries with in-combustible fittings	Machinery spaces	Dry cargo spaces	Fuel and water tanks and voids	Open decks and en-promenades (not safety areas)
1	A-30	A-30	A-15	A-0	A-0	A-15	A-30	A-0	A-0	A-0	A-0	A-0
2	A-0	C	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0
3	A-15	A-0	A-0	C	A-0	A-0	A-15	A-0	A-0	A-0	A-0	A-0
4	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	C
5	A-15	A-15	A-0	A-0	A-0	A-0	A-15	A-0	A-0	A-0	A-0	A-0
6	A-60	A-60	A-30	A-15	A-0	A-30	A-60	A-0	A-0	A-0	A-0	A-0
7	A-60	A-60	A-60	A-30	A-15	A-60	A-60	A-0	A-0	A-0	A-0	A-0
8	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0
9	A-60	A-60	A-60	A-30	A-15	A-60	A-60	A-0	A-0	A-0	A-0	A-0
10	A-60	A-60	A-60	A-30	A-15	A-60	A-60	A-0	A-0	C	A-0	A-0
11	A-60	A-60	A-60	A-30	A-15	A-60	A-60	A-0	A-0	A-0	A-0	A-0
12	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0
13	A-0	A-0	C	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	C

(h) Where ceilings or linings are fitted, "B" Class bulkheads, with the exception of those forming passageways, may stop at the ceiling or lining and need not continue to the deck or shell, provided the ceiling and/or lining is erected as indicated in paragraph (j) of this section. However, draft stops meeting at least Class B-0 requirements shall be fitted not more than 45 feet apart between the ceiling or lining and the deck or shell. The space behind the linings of stairways and similar trunks shall have similar draft stops at each deck.

(i) Where Class B-15 bulkhead panels are required to go beyond the ceiling to the deck above, or beyond the lining to the shell, the portion of the bulkhead panel within the void space need only meet B-0 requirements.

(j) Where "B" Class panels are used, all four edges of the panel shall be retained by continuous steel or equivalent metal flanges on both sides of the panel offering at least $\frac{3}{4}$ inch coverage. The top and bottom flanges shall be so attached to the structural decks above and below so as to support and restrain the panels in the event of fire. Other methods of construction may be specifically approved by the Commandant if determined to be equivalent.

(k) Any sheathing, furring, or holding pieces incidental to the securing of structural insulation shall be of approved incombustible materials.

(l) Where linings or bulkhead panels are framed away from the shell or structural bulkheads, the deck within the void space so formed need only meet Class A-0 requirements.

(m) Decks within accommodation spaces and inside safety areas may have an overlay for leveling or finishing purposes which need not meet the requirements for an approved deck covering. Such an overlay will not be considered as giving any insulating value and may not in general exceed $\frac{3}{8}$ of an inch in thickness. Greater thicknesses may be specifically approved by the Commandant for specific locations.

(n) Rugs and carpets may be used in addition to any deck covering or overlay installed. Rugs and carpets used in stairways or corridors shall be of wool, or other materials having equivalent fire-resistive qualities.

(o) Decking within surgical operating rooms shall be of a type which is acceptably conductive to prevent accumulation of dangerous electrostatic charges, and shall be in general agreement with "Code for Flammable Anesthetics" of issue in effect at the time the construction or alteration of the vessel is contracted for, published by the National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02269.

(p) Decks in washrooms and toilet spaces, service, cargo, and machinery spaces, open decks, exterior safety areas, and enclosed promenades may have an overlay in any thickness. This overlay need not meet the requirements for an approved deck covering.

[CGFR 65-50, 30 FR 16903, Dec. 30, 1965, as amended by CGD 95-072, 60 FR 50463, Sept. 29, 1995; CGD 95-028, 62 FR 51204, Sept. 30, 1997]

§ 72.05-15 Ceilings, linings, trim, and decorations in accommodation spaces and safety areas.

(a) Ceilings and linings and any furring incidental to their erection shall be of approved incombustible materials. Where such ceilings or linings are given credit for their insulating value in obtaining a bulkhead or deck classification they shall be of Class B-15 bulkhead panel material, and the construction shall be as required by § 72.05-10(j).

(b) Bulkheads, linings, and ceilings may have a combustible veneer within a room not to exceed $\frac{7}{28}$ of an inch in thickness. However, combustible veneers shall not be used in passageways or stairway enclosures, or in spaces specifically restricted by tables 72.05-10 (d) through (g).

(c) The total volume of combustible face trim, moldings, and decorations, including veneers, in any compartment shall not exceed a volume equivalent to $\frac{1}{10}$ inch veneer on the combined area of the walls of the compartment. Such trim, molding, or decorations shall not perform any structural function, and shall not be used in corridors or stairway enclosures.

(d) Combustible veneers, trim, decorations, etc., shall not be used in or extend into hidden spaces such as behind linings or ceilings or in the matter of double bulkheads.